



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,493	12/30/2003	Steve Larsen	S63.2-10827-US01	8743
490	7590	06/07/2006	EXAMINER	
VIDAS, ARRETT & STEINKRAUS, P.A. 6109 BLUE CIRCLE DRIVE SUITE 2000 MINNETONKA, MN 55343-9185			ALEXANDER, MICHAEL P	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,493

Applicant(s)

LARSEN ET AL.

Examiner

Michael P. Alexander

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59 and 61-74 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 59,61-71 and 74 is/are rejected.
7) ☒ Claim(s) 72 and 73 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 1742

DETAILED ACTION

Claim(s) 59 and 61-74 is/are pending.

Double Patenting

Applicant is advised that should claim 59 be found allowable, claim 67 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 59, 62-71 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,254,632) in view of Ruebben (DE 29914243 U1), Edson (US 4,663,005) and Taylor (US 6,558,231).

Regarding claim 59, Wu teaches (col. 4 lines 20-55, col. 10 lines 1-5, col. 12 lines 1-21) a method of electropolishing a gold stent, the method comprising the steps of: providing a tubular member (100) formed of gold; laser cutting a stent pattern in the tubular member to form a stent; and electropolishing the stent. Wu does not specify that the gold would comprise at least one non-noble metal, does not specify the composition of the electropolishing solution, and does not specify applying a multiple pulse waveform.

With respect to the limitation that the gold stent comprise at least one non-noble metal in claim 59, Ruebben teaches (abstract) a gold alloy stent formed of gold, platinum, palladium, iridium, silver, copper, zinc, tin and ruthenium and that said stent would have a higher tensile strength than gold, which is indispensable for stents. It would have been obvious to one of ordinary skill in the art to combine the method of Wu with the gold alloy stent of Ruebben in order to have a high tensile strength as taught by Ruebben.

With respect to the composition of the electropolishing solution in claim 59, Edson teaches (col. 3 lines 3-48) electropolishing gold alloys in an aqueous acidic mixture comprising thiourea and hydrochloric acid or fluoboric acid and teaches (col. 1 lines 40-55) that the solution would be environmentally safe and non-toxic. It would have been obvious to one of ordinary skill in the art to combine the method of Wu with

Art Unit: 1742

the method of Edson in order to result in an electropolishing solution which would be non-toxic and environmentally safe as taught by Edson.

With respect to the step of applying a multiple pulse waveform in claim 59, Taylor teaches (abstract, cols. 3-4) a method of electropolishing metal using modulated electric fields by applying a pulsed current in order to achieve a thin Nernst diffusion layer in order to remove large asperities during the electropolishing. It would have been obvious to one of ordinary skill in the art to modify the method of Wu in view of Ruebben and Edson by applying a pulsed current to remove large asperities during electropolishing as taught by Taylor.

Regarding claim 62, Taylor teaches (abstract) a two-step electropolishing process using the disclosed solution composition. Therefore, the first electropolishing step would be an etching step before an electropolishing step.

Regarding claim 63, Taylor teaches (col. 5 lines 38-70) applying a periodic reverse multiple pulse waveform.

Regarding claim 64, Edson teaches (col. 3 lines 3-48) that the chelating agent would be thiourea.

Regarding claims 65-66, the Examiner asserts that the claimed thiuronium salts would inherently be present because of the presence of thiourea and halide acids in the solution of Edson.

Regarding claim 67, Ruebben teaches (abstract) that the gold alloy would contain at least one noble metal and at least one non-noble metal.

Regarding claims 68-69 and 74, Ruebben teaches (abstract) that the gold alloy would comprise gold, platinum, iridium and ruthenium.

Regarding claims 70, Ruebben teaches (abstract) that the gold alloy would contain copper.

Regarding claim 71, the gold alloy of Ruebben would inherently contain an impurity level of tantalum, iron, nickel, cobalt, chromium, titanium, hafnium, niobium, molybdenum, tungsten, zirconium or rhenium.

Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,254,632) in view of Ruebben (DE 29914243 U1), Edson (US 4,663,005) and Taylor (US 6,558,231) as applied to claim 59 above, and further in view of Kelly (US 4,148,670).

Regarding claim 61, the combination of references do not specify the step of soaking the stent in an acidic mixture of fluoroboric and nitric acids. However, Kelly teaches (col. 11 lines 60-70) soaking a metal surface in an acidic mixture of fluoroboric acid and nitric acid in order to coat the surface. It would have been obvious to one of ordinary skill in the art to modify the aforementioned combination of references by subsequently soaking the stent in an acidic mixture of fluoroboric acid and nitric acid in order to coat the surface of the stent as taught by Kelly.

Response to Arguments

Applicant's arguments, see page 5, filed 1 May 2006, with respect to the rejections of claims 64-65 under 35 USC 112 have been fully considered and are persuasive. The rejection of claims 64-65 has been withdrawn.

Applicant's arguments with respect to claims 59 and 61-74 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 72-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not specify a method of electropolishing stainless steel, cobalt-chromium alloy or nickel-titanium alloy stents comprising at least one noble metal in an aqueous acidic mixture comprising at least one chelating or complexing agent, said chelating agent comprising at least one sulfur atom and at least one halide in the form of a salt or an acid in combination with the claimed invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1742

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M/4
mpa


ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700